



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/505,342	06/24/2005	Takayuki Matsushima	17155/003001	5910
22511 7590 09/02/2008 OSHA LIANG I.L.P. 1221 MCKINNEY STREET SUITE 2800 HOUSTON, TX 77010				
EXAMINER				
GOFF II, JOEIN L				
ART UNIT		PAPER NUMBER		
1791				
NOTIFICATION DATE		DELIVERY MODE		
09/02/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@oshaliang.com
buta@oshaliang.com

Office Action Summary**Application No.**

10/505,342

Applicant(s)

MATSUSHIMA ET AL.

Examiner

JOHN L. GOFF II

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 4, 5, 7 and 8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4, 5, 7 and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/6/08 has been entered.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1, 5, 7, and 8 are rejected under 35 U.S.C. 103(a) as being obvious over Matsushima (U.S. Patent Application Publication 2002/0151627) in view of JP07082533 (See also the machine translation and abstract).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Matsushima discloses a method for producing an electrical device comprising arranging an adhesive layer containing a thermosetting resin, a silane coupling agent as a first curing agent, an aluminum chelate as a second curing agent, and electrically conductive particles added to the adhesive from the outset between a first electrode of a first object and a second electrode of a second object which electrodes are considered positioned in register with each other, tightly contacting the adhesive layer with the first object and the second object by thrusting the first and

second objects against each other to interconnect the first and second electrodes via the electrically conductive particles, and allowing the resin to be cationically polymerized by heating to develop a cation by reaction of the silane coupling agent and aluminum chelate (Figures 3a-3d and Paragraphs 0014, 00300041, 0046, 0071-0078, 0083, 0086-0089, and 0101). Matsushima does not specifically teach arranging the adhesive layer as a first adhesive layer including the thermosetting resin and silane coupling agent on the first electrode and a second adhesive layer including the aluminum chelate on the second electrode and contacting both adhesive layers. However, Matsushima teaches using the aluminum chelate as a "latent curing agent" to improve storage stability of the adhesive, and Matsushima is not limited to any particular technique for applying the adhesive including suggesting the aluminum chelate is separate from the silane coupling agent until the adhesive is heated for cationic polymerization. JP07082533 discloses an adhesion method for producing an electronic device comprising arranging an adhesive layer containing a heat curable epoxy resin and a silane coupling agent on a first object to be bonded, arranging an adhesive layer containing a curing agent on a second object to be bonded, thrusting the first and second objects against each other with the adhesive layers therebetween, and allowing the heat curable epoxy resin to be polymerized with the curing agent by heating (See the abstract and paragraphs 7-13 and the examples of the machine translation), it being noted JP07082533 further teach at least one or both of the adhesive layers may include electrically conductive particles from the outset. JP07082533 teaches the application of the adhesive layers in this manner provides the adhesive with a long shelf life as the curing agent has latency, the adhesive is cured at a low temperature, and the first and second objects are strongly bonded (See paragraphs 4 and 30 and Table 1 of the machine translation). It would have been obvious to one

of ordinary skill in the art at the time the invention was made to use the adhesive taught by Matsushima as two adhesive layers with the silane coupling agent and aluminum chelate separate to prevent premature initiation of the curing reaction as such was known as shown by JP07082533 whereby the adhesive has a long shelf life, the adhesive is cured at a low temperature, and the first and second electrodes are strongly bonded.

Regarding claim 5, Matsushima teaches the silane coupling agent is represented by the claimed formula and includes an alkoxy group and an epoxy ring containing glycidyl group.

Regarding claims 7 and 8, JP07082533 teaches the adhesive layer comprising the curing agent also includes heat curable epoxy resin, and both Matsushima and JP07082533 suggest the adhesive layer including the curing agent are applied as a coated liquid dispersion.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsushima and JP07082533 as applied to claims 1, 5, 7, and 8 above, and further in view of either one of Isozaki et al. (U.S. Patent 4,772,672) or JP07011152 (See also the abstract).

Matsushima and JP07082533 as applied above teach all of the limitations in claim 4 except for a specific teaching that the aluminum chelate is one of ethyl acetoacetate aluminum diisopropylate, alkyl acetoacetate aluminum diisopropylate, or aluminum monoacetyl acetate bis ethylacetoacetate, it being noted Matsushima are not limited to any particular aluminum chelate. It is well taken in the art that aluminum chelate curing agents include aluminum monoacetyl acetate bis ethylacetoacetate, ethyl acetoacetate aluminum diisopropylate, etc. as shown for example by either one of Isozaki et al. (Column 8, lines 1-62) or JP07011152 (See abstract). Absent any unexpected results, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the aluminum chelate taught by Matsushima

as modified by JP07082533 any of those well taken in the art including aluminum monoacetyl acetate bis ethylacetoacetate, ethyl acetoacetate aluminum diisopropylate, etc. as shown for example by either one of Isozaki et al. or JP07011152.

Response to Arguments

6. Applicant's arguments with respect to claims 1, 4, 5, 7, and 8 have been considered but are moot in view of the new ground(s) of rejection.

The previous rejections over JP09330947 (See also the machine translation and abstract) in view of JP07082533 (See also the machine translation and abstract) and Isshiki et al. (U.S. Patent 5,872,194) are withdrawn in view of applicants amendment and arguments submitted 8/6/08.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **JOHN L. GOFF II** whose telephone number is (571)272-1216. The examiner can normally be reached on M-F (7:15 AM - 3:45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John L. Goff II/
Primary Examiner, Art Unit 1791